

## Claims

1. A multi-configuration electrical connector for use in making electrical connections between an external defibrillator and defibrillation electrodes applied to a patient, the multi-configuration connector comprising:

5 a connector body;

at least first and second pairs of electrical terminal elements supported in the connector body; and

a pair of electrical conductors within the connector body, each conductor of the pair being configured to be electrically connected to one of the electrical terminal  
10 elements in each of the first and second pairs of electrical terminal elements,  
wherein the connector body and first and second pairs of electrical terminal elements are configured so that the multi-configuration connector is able to mate alternatively with first and second mating defibrillation electrode connectors, with the first pair of electrical terminal elements in electrical contact with mating electrical  
15 elements of the first mating defibrillation connector when the multi-configuration connector is mated with the first mating defibrillation connector, and with the second pair of electrical terminal elements in electrical contact with mating electrical elements of the second mating defibrillation connector when the multi-configuration connector is mated with the second mating defibrillation connector.

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2. A multi-configuration electrical connector for use in making electrical connections between an external defibrillator and defibrillation electrodes applied to a patient, the multi-configuration connector comprising:

a connector body;

25 at least first and second defibrillation electrode connectors integral with the connector body;

wherein the connector body and first and second defibrillation electrode connectors are configured so that the multi-configuration connector is able to mate alternatively with at least a first and second mating defibrillation electrode connector.

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3. The multi-configuration electrical connector of claim 2 wherein each of the first and second incompatible defibrillation electrode connectors comprises a pair of electrical terminal elements, and wherein the pair of electrical terminal elements is configured to be in electrical contact with a pair of mating electrical elements in one of the mating defibrillation electrode connectors.

4. The multi-configuration electrical connector of claim 1 or 3 wherein the electrical terminal elements comprise electrical pins.

5. The multi-configuration electrical connector of claim 1 further comprising a third pair of electrical terminal elements supported in the connector body, and wherein each conductor of the pair of conductors is configured to be electrically connected to one of the electrical terminal elements in each of the first, second, and third pairs of electrical terminal elements, and wherein the connector body and the first, second, and third pairs of electrical terminal elements are configured so that the multi-configuration connector is able to mate alternatively with first, second, and third mating defibrillation electrode connectors, with the third pair of electrical terminal elements in electrical contact with mating electrical elements of the first mating defibrillation connector when the multi-configuration connector is mated with the third mating defibrillation connector.

6. The multi-configuration electrical connector of claim 2 further comprising a third defibrillation electrode connector integral with the connector body, and wherein the connector body and the first, second, and third defibrillation electrode connectors are configured so that the multi-configuration connector is able to mate alternatively with a first, second, and third mating defibrillation electrode connector.

7. The multi-configuration electrical connector of claim 1 or 5 wherein the conductors of the pair of conductors are configured to be electrically connected to only the pair of electrical terminal elements that is mated with a mating defibrillation connector, with the other electrical terminal elements electrically isolated from the pair of conductors.

8. The multi-configuration electrical connector of claim 2 or 6 wherein the multi-configuration connector is configured so that only the defibrillation electrode connector that is mated with a mating defibrillation electrode connector is electrically live and the other defibrillation electrode connectors are electrically isolated.

9. The multi-configuration electrical connector of claim 7 wherein an associated pair of the electrical terminal elements move into electrical contact with the conductors in response to the multi-function electrical connector being mated with a mating defibrillation connector.

10. The multi-configuration electrical connector of claim 9 further comprising one or more spring elements configured to return the electrical terminal elements to a position in which they are electrically isolated when not mated with a mating electrical connector.

11. The multi-configuration electrical connector of claim 1, 2, 5, or 6 wherein the multi-configuration electrical connector is connected to a cable that is connected to a pair of defibrillation electrodes, whereby the same pair of defibrillation electrodes can be electrically connected to defibrillators with different mating electrical connectors.

12. The multi-configuration electrical connector of claim 7 or 8 wherein the multi-configuration electrical connector is connected to a cable that is connected to a pair of defibrillation electrodes, whereby the same pair of defibrillation electrodes can be electrically connected to defibrillators with different mating electrical connectors.

13. The multi-configuration electrical connector of claim 1 or 2 further comprising one or more latch elements for retaining a mating defibrillation connector.

14. The multi-configuration electrical connector of claim 1 wherein the plurality of pairs of electrical terminal elements are positioned so that all of the electrical terminal elements lie approximately in the same plane.

5            15. The multi-configuration electrical connector of claim 1 wherein the plurality of pairs of electrical terminal elements are positioned so that each pair of electrical terminal elements is stacked on top of another pair of electrical terminal element.

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